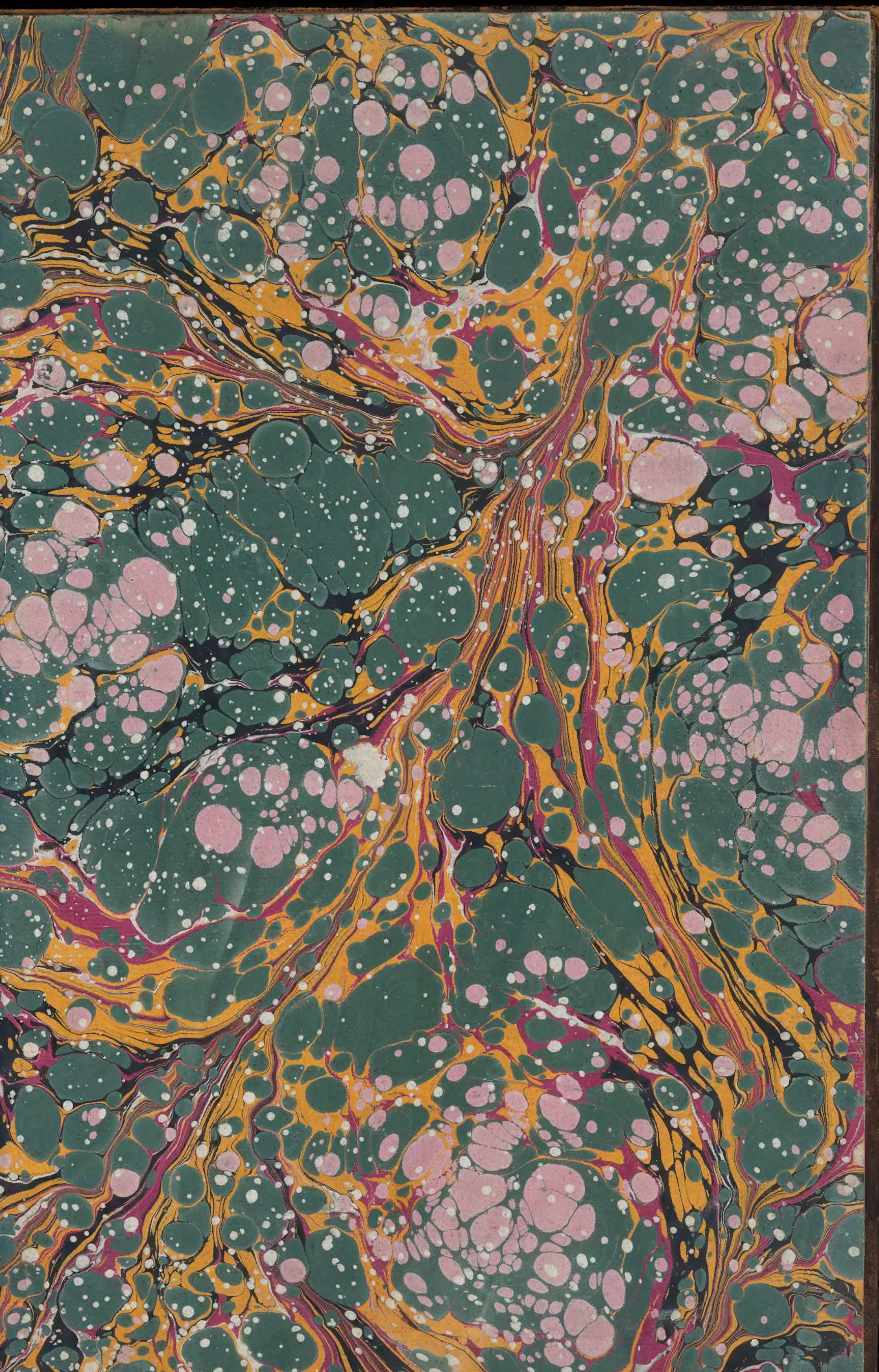

17/-

18/6

COURSE

OF THE

FIVE ORDERS

OF

CIVIL ARCHITECTURE,

WITH PLANS

AND SOME

GEOMETRICAL ELEVATIONS

OF

Town Gates of Fortified Places.

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A COURSE OF THE FIVE ORDERS OF CIVIL ARCHITECTURE; WITH A PLAN, AND SOME GEOMETRICAL ELEVATIONS OF Town Gates of Fortified Places.

By J. LANDMANN,
PROFESSOR OF FORTIFICATION AND ARTILLERY
TO THE
ROYAL MILITARY ACADEMY AT WOOLWICH.

The FIVE ORDERS are taken from Mr. CHAMBERS's
Elegant Treatiſe on CIVIL ARCHITECTURE.

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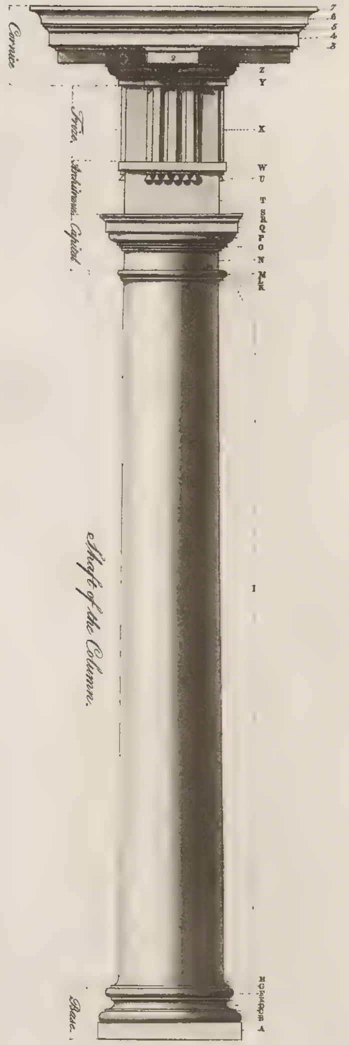
MDCCLXXXV.

The Doric Order in its Improved State.



A .. Plinth.
B Lower Torus.
C ... Fillet or square.
D . Scotia.
E ... Fillet.
F Upper Torus.
G Fillet or lower Cincture.
H Conge.
I Shaft of the Column.
K. Conge.
L .. Fillet or upper Cincture.
M Astragal.
N. Neck or Frize of the Capital.
O Fillets or Annulets.
P Ovolo or Echinus.
Q Abacus.
R Inverted Cyma or Ogee.
S Fillet.
T Fascia of the Architrave.
U Drops.
W .. Fillet, or Tenia.
X .. Triglyph.
Y . Capital of the Triglyphs.
Z .... Ovolo or quarter round.
1 .... Mutule or Modillion Band.
2 .... Mutules
3. Ogee.
4 ... Corona or Drip.
5 Ogee.
6 Cavetto.
7. ... Fillet.

OF THE ORDERS OF ARCHITECTURE IN GENERAL.

AN Order conſiſts of two principal members, the Column and the Entablature; each of which is compoſed of three principal parts. Thoſe of the column are the Baſe, the Shaft, and the Capital; and thoſe of the entablature are the Architrave, the Frize, and the Cornice. (Pl. 1.) All theſe are ſubdivided into many leſſer parts, whoſe number, form, and dimenſions characterize each order, and expreſs the degree of ſtrength, delicacy, richneſs, or ſimplicity peculiar to it.

There are five Orders, (Pl. 2.) three are called Grecian; viz. the Doric, the Ionic, the Corinthian; and two Latin, the Tuſcan, and the Compoſite.

The ſimpleſt and moſt ſolid of all theſe is the *Tuſcan*. It is compoſed of few parts, devoid of ornaments, and of a conſtruction ſo maſſive, that it ſeems capable of ſupporting the heavieſt burden.

The *Doric* is next in ſtrength to the Tuſcan; and being of a grave, robuſt, and maſculine aſpect, is by Scamozzi called the Herculean. As it is the moſt ancient of all the orders, it retains more of the ſtructure of the primitive huts than any of the reſt; having Triglyphs in its Frize, to repreſent the ends of the joiſts; and Mutules in its Cornice, to repreſent the rafters: its Column being likewiſe, in various antiques, executed without a baſe, in imitation of the trees uſed in the firſt buildings, without any plinths to raiſe them above the ground.

The *Ionic* (Pl. 2.) is of a more ſlender make than either of the abovementioned Orders. Its appearance is ſimple, yet graceful and majeſtic; its ornaments are few, nor is there any thing exaggerated, or remarkably ſtriking, in any of its parts.

" The *Corinthian*, ſays Sir H. Wotton, is a column laſciviouſly decked, " like a wanton courtezan." Its proportions are extremely elegant. It is divided into a great variety of members, and enriched with a profuſion of ornaments.

The *Compoſite* is, properly ſpeaking, only a ſpecies of the Corinthian; and therefore retains, in a great meaſure, the ſame character.

The Proportions of the Orders were, by the ancients, formed on thoſe of the human body; and conſequently it could not be their intention to make a Corinthian column as thick and much taller than a Doric one, which is deſigned to repreſent the bulk and vigour of a full-grown man.

Columns, in the opinion of Scamozzi, ſhould not be leſs than ſeven of their diameters in height, nor more than ten; the former being a good proportion in the Tuſcan, and the latter in the Corinthian order. The practice of the ancients in their beſt works, is conformable to this precept: for which reaſon Mr. Chambers has, according to the doctrine of Vitruvius, made the Tuſcan column ſeven diameters in height, the Doric eight, and the Ionic nine (as Palladio and Vignola have done), and the Corinthian and Compoſite ten; which laſt is a mean proportion between the proportions obſerved in the Panthæon, and in the three Columns, both which are counted excellent models of the Corinthian order.

The height of the Entablature, in all the orders, is according to Mr. Chambers, one quarter of the height of the column, which was the common

Pl. II

The Orders of the Antients

mon practice of the ancients, who in all ſorts of entablatures, ſeldom exceeded or fell much ſhort of that meaſure.

The whole height B C (Pl. 2.) of the Entablature in all orders except the Doric is, according to Perrault, divided into ten equal parts; three of which he gives to the Architrave B D; three to the Frize D E; and four to the Cornice E C. And in the Doric order he divides the height F G into eight equal parts; of which two are given to the Architrave, three to the Frize, and three to the Cornice.

The dimenſions of the Mouldings and the leſſer parts that compoſe an order, are determined by the ſemi-diameter of the column, taken at the bottom of the ſhaft, and is called Module. This module is divided by Vignola, in his Tuſcan and Doric orders, into twelve parts; and for the Mouldings of the Ionic, Corinthian, and Compoſite into eighteen parts. Mr. Chambers has given a general diviſion for all the orders in dividing the Semi-diameter or Module into thirty Minutes; this laſt diviſion being the moſt accurate to expreſs all the parts of an order, it will be the Scale to conſtruct the different orders in this treatiſe.

Columns, in imitation of trees, from which they drew their origin, are tapered in their Shafts. In the antiques the diminution is variouſly performed; beginning ſometimes from the foot of the ſhaft, and at others from the quarter, or one third of its height; the lower part being perfectly cylindrical. The former of theſe was moſt in uſe amongſt the ancients; and being the moſt natural and graceful ought to have the preference, though the latter has been more univerſally practiſed by modern artiſts.

"The firſt architects, ſays Mr. Auzolt, made their columns in ſtraight "lines in imitation of trees;" ſo that their Shaft was a fruſtum of a cone: but finding this form abrupt and diſagreeable, they made uſe of ſome curve, which, ſpringing from the extremity of the ſuperior and inferior diameters of the column, ſwelled beyond the ſides of the cone, and by that means gave a more pleaſing figure to the contour.

Monſ. Blondel, in his book intitled *Reſolution des quatre principaux problemes d'Architecture*, teaches various manners of diminiſhing columns; the beſt and ſimpleſt of which is by means of the inſtrument which Nicomedes invented

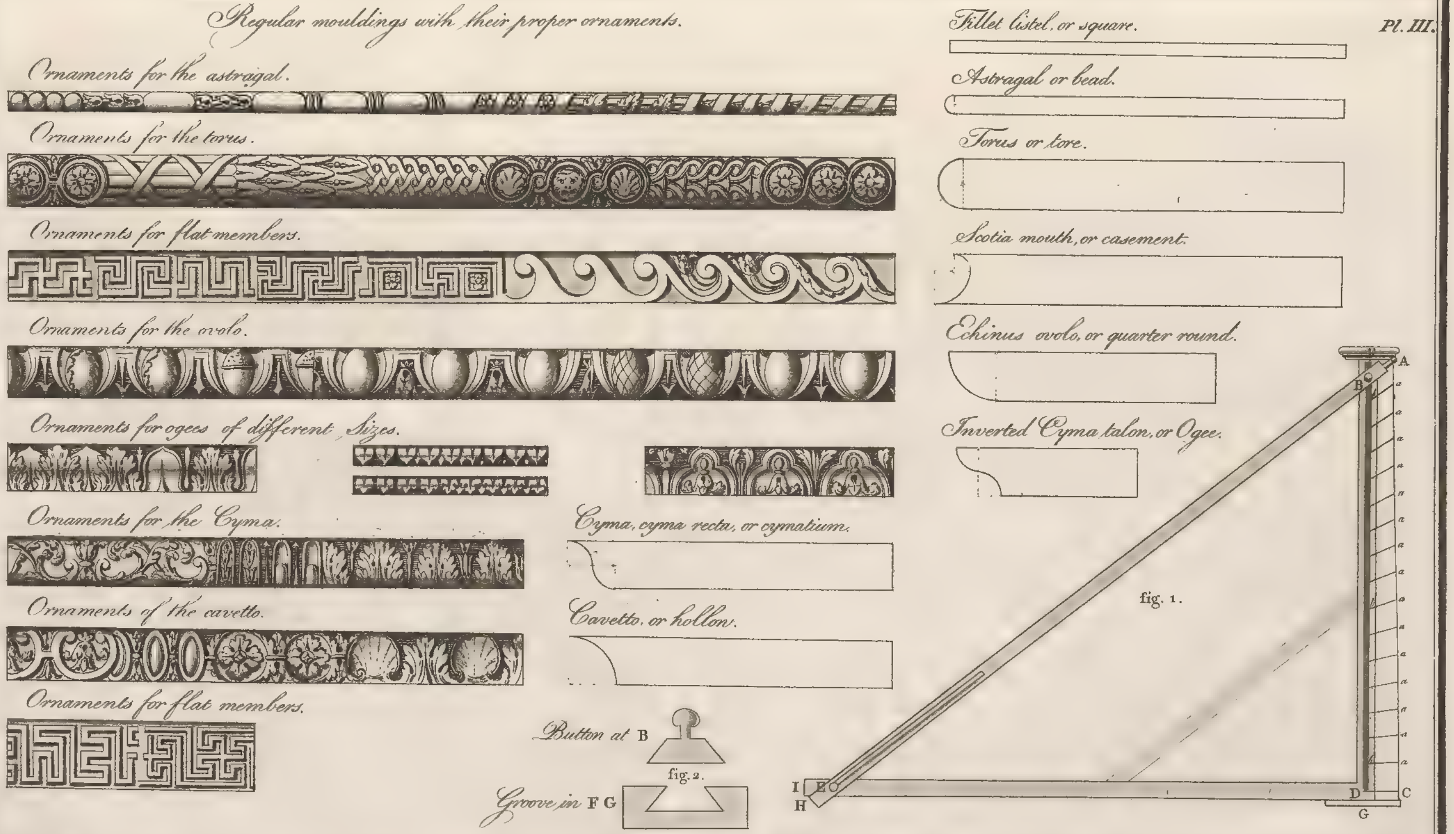
vented, to deſcribe the firſt conchoid: for this being applied at the bottom of the ſhaft, performs at one ſweep both the ſwelling and the diminution; giving ſuch a graceful form to the column, that it is univerſally allowed to be the moſt perfect practice hitherto diſcovered. The Columns in the Panthæon, accounted the moſt beautiful among the antiques, are made in this manner; as appears by the exact meaſures of one of them to be found in Degodet's Antiquities of Rome.

To give an accurate idea of the Operation, it will be neceſſary firſt to deſcribe Vignola's method of diminiſhing, on which it is grounded. "As to this ſecond method, ſays Vignola, it is a diſcovery of my own; and although it be leſs known than the former, it will be eaſily comprehended by the figure. Having therefore determined the meaſure of your Column, (that is to ſay, the height of the ſhaft, and its inferior and ſuperior diameters) (Pl. 3.) draw a line indefinitely from C through D, perpendicular to the axis of the column: This done ſet off the diſtance C D, which is the inferior ſemi-diameter; from A, the extreme point of the ſuperior ſemi-diameter, to B, a point in the axis; then from A, through B, draw the line A B E, which will cut the indefinite line C D in E; and from that point of interſection E, draw through the axis of the column any number of rays as E b a, on each of which, from the axis towards the circumference, ſetting off the interval C D, you may find any number of points, a, a, a, through which if a curve is drawn, it will deſcribe the ſwelling and diminution of the column."

Though this method be ſufficiently accurate for practice, eſpecially if a conſiderable number of points be found, yet, ſtrictly ſpeaking, it is defective; as the curve muſt either be drawn by hand, or by applying a flexible ruler to all the points; both of which are liable to variation. Blondel therefore, to obviate this objection, (after having proved the curve paſſing from A to C through the points a a, to be of the ſame nature with the firſt conchoid of the ancients), employed the inſtrument of Nicomedes to deſcribe it; the conſtruction of which is as follows.

Having determined (Plate 3, Fig. 1, 2) as above, the length of the ſhaft, with the inferior and ſuperior diameters of the column, and having likewiſe found the length of the line C D E; take three rulers, either of wood or metal, as F G, I D, and A H; of which let F G and I D be faſtened

Regular mouldings with their proper ornaments.



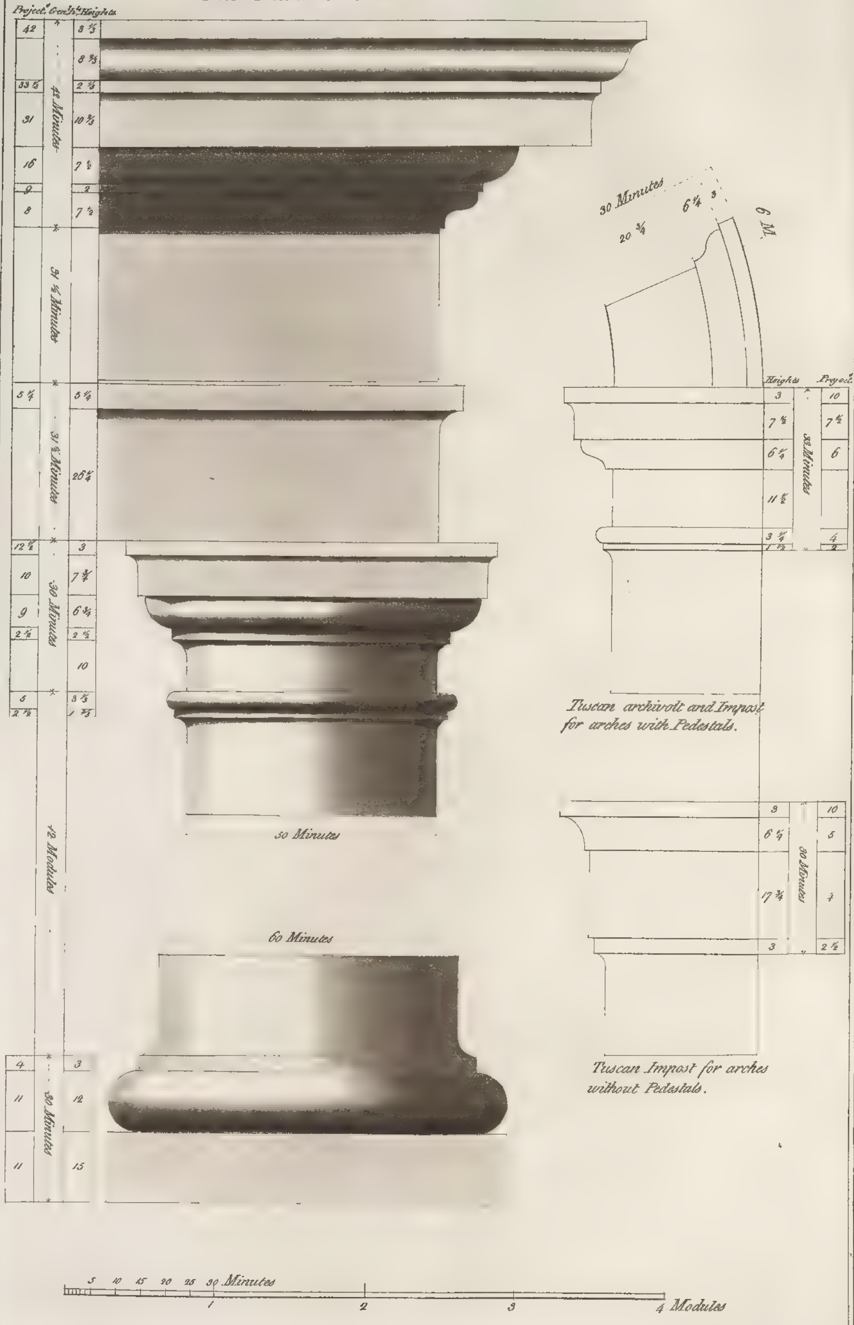
tened together at right angles in G. Cut a dove-tail groove in the middle of F G, from top to bottom; and at the point E at the ruler I D, (whoſe diſtance from the middle of the groove in F G, is the ſame as that of the point of interſection from the axis of the column) fix a pin; then on the ruler A H ſet off the diſtance A B, equal to C D the inferior ſemidiameter of the column, and at the point B fix a button, whoſe head muſt be exactly fitted to the groove made in F G, in which it is to ſlide; and at the other extremity of the ruler A H, cut a ſlit or canal from H to K, whoſe length muſt not be leſs than the difference of length between E B and E D; and whoſe breadth muſt be ſufficient to admit the pin fixed at E, which muſt paſs through the ſlit, that the ruler may ſlide thereon.

The Inſtrument being thus completed; if the middle of the groove, in the ruler F G, be placed exactly over the axis of the column, it is evident, that the ruler A H, in moving along the groove, will with the extremity A deſcribe the curve A a a C; which curve is the ſame as that produced by Vignola's method of diminution, ſuppoſing it done with the utmoſt accuracy: for the interval A B, a b is always the ſame; and the point E is the origin of an infinity of lines, of which the parts B A, b a, b a, extending from the axis to the circumference, are equal to each other and to D C. And if the rulers be of an indefinite ſize, and the pins at E and B be made to move along their reſpective rulers, ſo that the intervals A B and D E may be augmented or diminiſhed at pleaſure; it is likewiſe evident, that the ſame inſtrument may be thus applied to columns of any ſize.

In the remains of antiquity the diminution of the ſuperior diameter of the Shaft is various; but ſeldom leſs than one eighth of the inferior diameter of the column, nor more than one ſixth of it. The laſt of theſe is by Vitruvius eſteemed the moſt perfect. Vignola has employed it in four of his orders, as Mr. Chambers does in all of them; there being no reaſon for diminiſhing the Tuſcan column more in proportion to its diameter, than any of the reſt, though it be the doctrine of Vitruvius, and the practice of Palladio, Vignola, Scamozzi, and almoſt all the modern architects. On the contrary, as Perrault obſerves, its diminution ought rather to be leſs; as it actually is in the Trajan Column, in which it is only one ninth. For even when the ſame proportion is kept through all the orders, the abſolute quantity of the diminution in the Tuſcan Order, ſuppoſing the columns of the ſame height, exceeds that of the Corinthian in the ratio of ten to ſeven; and if, according to the common practice, the Tuſcan column be leſs, by one quarter, at the top than at its foot, the difference between the diminution in the Tuſcan and in the Corinthian columns will be as fifteen to ſeven; and in the Tuſcan and Doric nearly as fifteen to nine: ſo that notwithſtanding there is a very conſiderable difference between the lower diameters of a Tuſcan and a Doric column, both being of the ſame height, yet the diameters at their top will be nearly equal; and conſequently the Tuſcan column will in reality be no ſtronger than the Doric one, which is repugnant to the character of the order.

Pl. IV

The Tuscan Order



Tuscan archivolt and Impost for arches with Pedestals.

Tuscan Impost for arches without Pedestals.

OF THE

TUSCAN ORDER.

THE height AB (Pl. 2.) of the Column is fourteen modules, or ſeven diameters, and that of the whole Entablature BC three and a half module: which being divided into ten equal parts, three of them are for the height of the Architrave, three for the Frize, and the remaining four for the Cornice. The Capital is in height one module; the Baſe, including the lower Cincture of the ſhaft, is alſo one module; and the Shaft, with its upper Cincture and Aſtragal, twelve modules.

Theſe are the general meaſures of the order. As to the particular dimenſions of the minuter parts, they may be collected from the deſign, Plate 4, where the heights and proportions are accurately marked; the latter being counted from perpendiculars raiſed at the extremities of the inferior and ſuperior diameters of the ſhaft: a method preferable to that of the Chambray and Degodetz, who count from the axis of the column; becauſe the relations between the heights and projections are more perceptible; and whenever a cornice, or entablature is to be executed without a column, which very frequently happens, it requires no additional labour, as the trouble of deducting from each of the dimenſions the ſemi-diameter is ſaved.

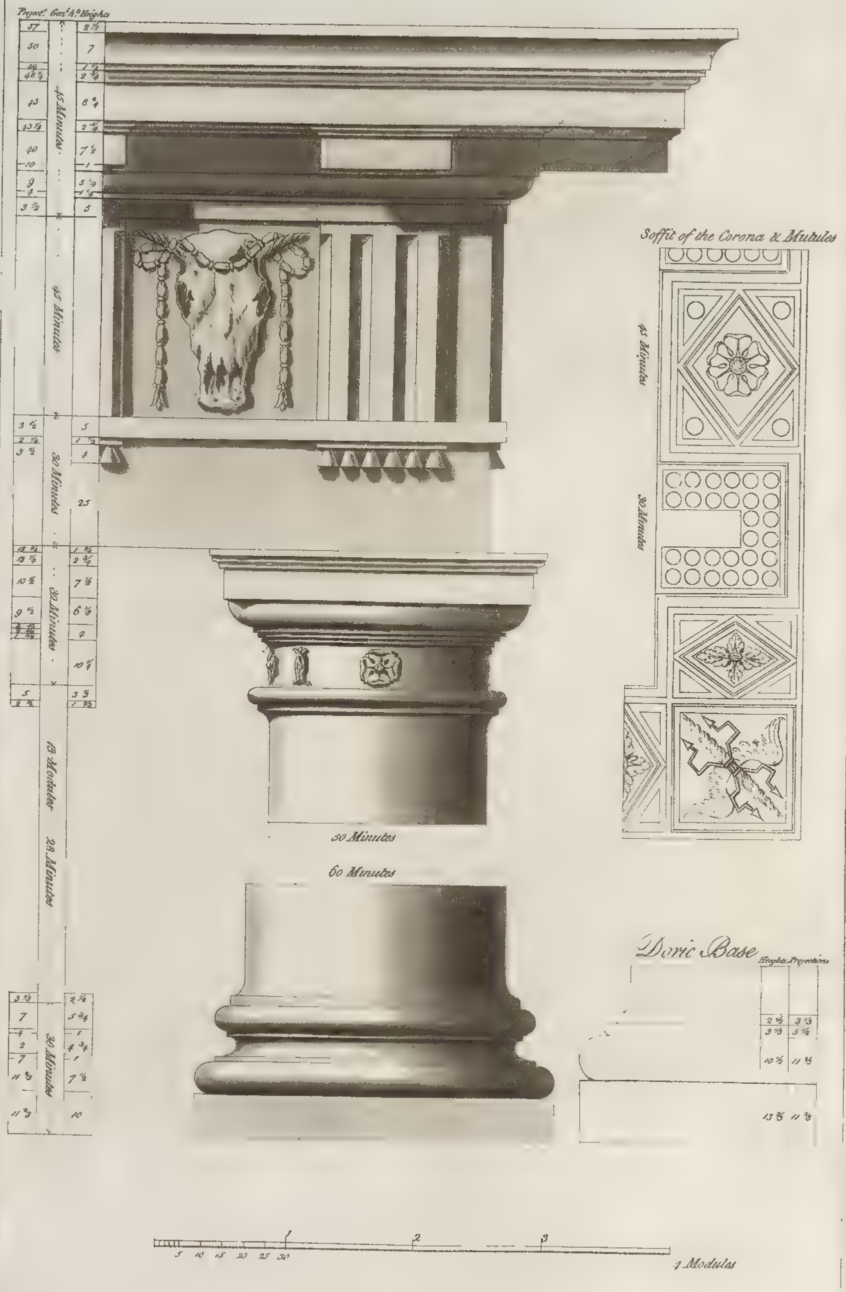
The Tuſcan Order, carrying with it an idea of ſtrength, is very proper to be employed for Gates of fortified Places, Citadels, Sea-Ports, Arſenals,

ſenals, Treaſuries, and Priſons; and as it is of a ruſtic ſimplicity, it may be employed in Farm-Houſes, Stables, Maneges, and Dog-Kennels, Green-Houſes, Grottos, Fountains, Gates of Parks and Gardens, and in general, in all places where magnificence is not required, and expence is to be avoided.

Mr. Chambers ſays that in Town-Building intended for civil purpoſes, or interior Decorations, the height of the column may be fourteen and a half, or even fifteen modules; which augmentation may be made in the Shaft, without changing any meaſures either in the Baſe or Capital: nor need the Entablature be altered; for, as it is compoſed of few parts, it will be ſufficiently bold, though its height be a little leſs than one fourth of the height of the column.

Pl. V.

The Doric Order



OF THE

DORIC ORDER.

THE height HF (Pl. 2.) of the Doric Column, including its Capital and Baſe, is ſixteen modules or ſeven diameters, and the height of the Entablature FG four modules; the latter of which being divided into eight parts, two of them are for the Architrave, three for the Frize, and three for the Cornice.

In imitation of Palladio, and all the modern architects, except Vignola, Mr. Chambers makes uſe of the Attic Baſe in this Order, Pl. 5; and which, as he obſerves very well, has the moſt beautiful appearance of any, though, for variety-ſake, when the Doric and Ionic orders are employed together, the Baſe invented by Vignola, of which a profile is annexed, may ſometimes be uſed: Bernini has uſed it in the Colonnades of St. Peter's, and it hath been ſucceſsfully applied in many other buildings.

Mr. Chambers gives to the height of the whole Capital thirty-two Minutes. The Frize, or Neck, is enriched with Huſks and Roſes; as it has been executed by Sangallo at the Farneſe, and by Cigoli in Crotile of the Strozzi at Florence, as well as in ſeveral buildings of note in this City. The Projection of theſe Huſks and Flowers muſt not exceed that of the upper Cincture of the Column.

The Architrave is one module in height, and compoſed only of one Faſcie and a Fillet, as at the Theatre of Marcellus: the Drops are conical, as they are in all the antiques; and not pyramidal, as they are, very improperly, made by moſt of our workmen.

The Frize and Cornice are each of them one module and a half in height: the Metope is enriched with Bull's Skulls, adorned with a Garland of Beads; in imitation of thoſe on the Temple of Jupiter Tonans, at the foot of the Capitol. In ſome antique fragments, and in a great number of modern buildings, the metopes are alternately enriched with theſe ox ſkulls and pateras; but they may be filled with any other ornaments of good forms, and frequently with greater propriety. Thus in Military Structures Heads of Meduſa, or the Furies; Thunderbolts, and other ſymbols of horrour, may be introduced: likewiſe Helmets, Daggers, and Garlands of Laurel, or Oak. But Spears, Swords, Quivers, Bows, Cuiraſſes, Shields, and the like, muſt be avoided; becauſe the real dimenſions of theſe things are too conſiderable to find admittance in ſuch ſmall compartments, and repreſentations in miniature always carry with them an idea of littleneſs.

Too much Variety in the Ornaments of the Metopes muſt be avoided, for fear of deſtroying the unity of the compoſition: and it is beſt never to introduce more than two repreſentations, which ſhould not conſiſt of above one, or at moſt two objects, each of ſimple forms, and not overcharged with ornaments. In the diſpoſition of theſe, care muſt be taken to place them with ſymmetry, thoſe on the right correſponding with thoſe on the left: Therefore, when a Triglyph happens to be in the middle of a front, it becomes neceſſary to couple the middle ones, by filling the two metopes, on each ſide of the central triglyph, with the ſame ſort of ornaments; (as at the Gate of Burlington Houſe); diſpoſing the reſt alternately throughout the whole front, as uſual. It is likewiſe to be obſerved, that the Ornaments of the Metopes are not to project ſo much as at Bow Church, and at General Wade's Houſe in Burlington-Garden; where they are far more ſtriking than the Triglyphs, which ought to be predominant, being eſſential and principal parts in the compoſition.

Of all the orders, the Doric is the moſt difficult to diſtribute; on account of the large intervals between the triglyphs. At the Colliſſeum they are omitted; and ſo they are in the Colonnades of St. Peter's, and in ſeveral other buildings at Rome. This indeed obviates the difficulty; but likewiſe deprives the order of one of its principal ornaments, without which it is very little preferable to the Tuſcan.

The ancients employed the Doric in Temples dedicated to Minerva, to Mars, and to Hercules, whoſe grave and manly diſpoſitions ſuited well with the character of this order. Surlio ſays, "It is proper for Churches dedicated to Jeſus Chriſt, St. Paul, St. Peter, or any other ſaints remarkable for their fortitude, in expoſing their lives for the Chriſtian faith." Le Clerc recommends the uſe of it in all kinds of Military Structures; as Arſenals, Gates of fortified Places, Guard Houſes, &c. and it may likewiſe be employed in the Houſes of Generals, or other martial men, in Mauſoleums erected to their memory, or in Triumphal Bridges or Arches built to celebrate their victories.

Mr. Chambers gives to the Height of the Doric column ſixteen modules; which, he ſays, in buildings where majeſty is required is a good proportion: but in others it may be ſlenderer. Thus Vitruvius makes the Doric column in Porticos higher by half a diameter than in Temples; and moſt of the modern architects have, on ſome occaſions, followed his example. In Private Houſes therefore it may be 16⅓, 16½, or 16⅔ modules high; and in interior Decorations even ſeventeen modules, and ſometimes a trifle more; which increaſe in the height may be made intirely on the Shaft, as in the Tuſcan order, without changing either the Baſe or Capital; alſo the Entablature may remain unaltered, for it will be ſufficiently high.

OF THE

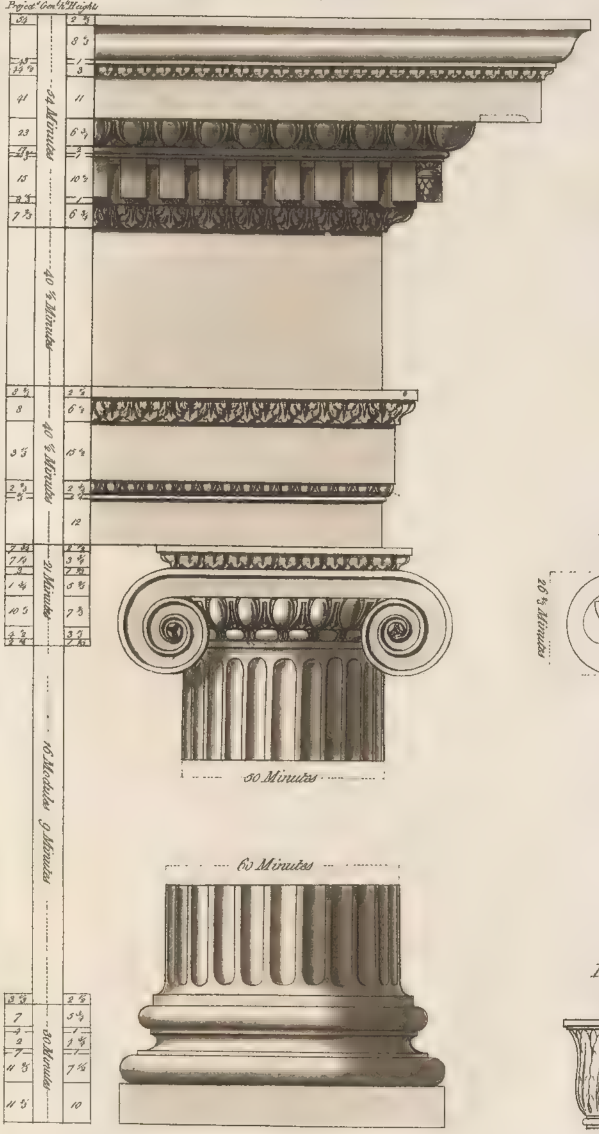
IONIC ORDER.

THE height IK (Pl. 2) of the Ionic Column, the Baſe and Capital included, is eighteen modules, and that of the Entablature four modules and a half, or one quarter of the height of the column, as in the other orders; which is a trifle leſs than in any of the regular antique Ionics. The Baſe is Attic, as in all the antiques; and the Shaft of the column may be plain, or fluted with twenty-four Flutings, or twenty only, as at the Temple of Fortune; whoſe Plan may be a trifle more than a ſemi-circle, as at the Temple of Jupiter Tonans, and the Forum of Nerva, becauſe they then appear more diſtinct; and the Fillet, or Interval between them, muſt not be broader than one third of the breadth of a fluting, nor narrower than one fourth thereof. See Pl. 6. The Ornaments of the Capital are to correſpond with the flutings of the ſhaft; and there muſt be an Ove above the middle of each fluting. The Volutes are to be traced according to Goldman's method, which is the beſt. Pl. 7, fig. 1 and 2.

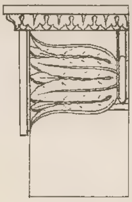
The three parts of the Entablature KL Pl. 2, bear the ſame proportion to each other in this as in the Tuſcan order. The Frize is plain, as being moſt ſuitable to the ſimplicity of the reſt; and the Cornice is almoſt an exact copy from Vignola's deſign, in which there is a grandeur of ſtyle that none of his competitors have arrived at.

If

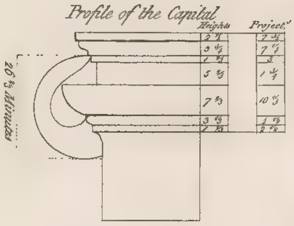
The Ionic Order



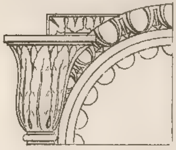
Side of the Capital

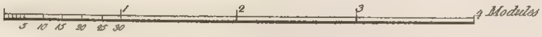


Profile of the Capital



Plan of the Capital





Pl. VII

Goldman's Volute Described

Fig: 1.

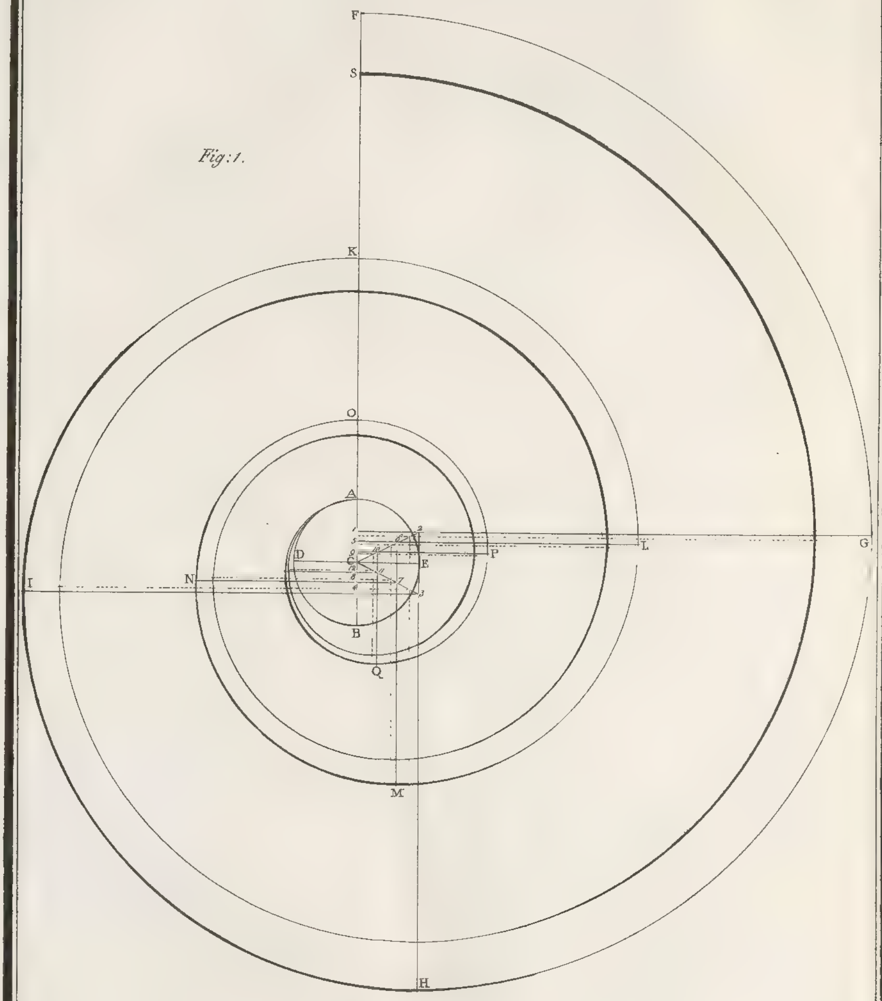
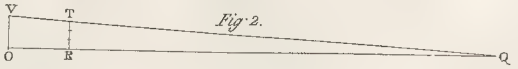


Fig 2.



If it be required to reduce this Entablature to two ninths of the height of the column (which, on moſt occaſions, is a proportion preferable to that of one quarter; particularly to eyes habituated to trivial objects), it may eaſily be done, by making the Module for the Entablature leſs by one ninth than the Semi-diameter of the Column, dividing it as uſual, and obſerving the ſame dimenſions that are figured in the Deſign, Pl. 6. The diſtribution of the Dentil-Band will anſwer pretty nearly in all the regular Intercolumniations; and in the outer Angle there will be Dentil, as in the Temple of Fortune.

In Interior Decorations, where much delicacy is required, the height of the Entablature may be reduced even to one fifth of the column, by obſerving the ſame method, and making the Module only four fifths of the Semi-diameter.

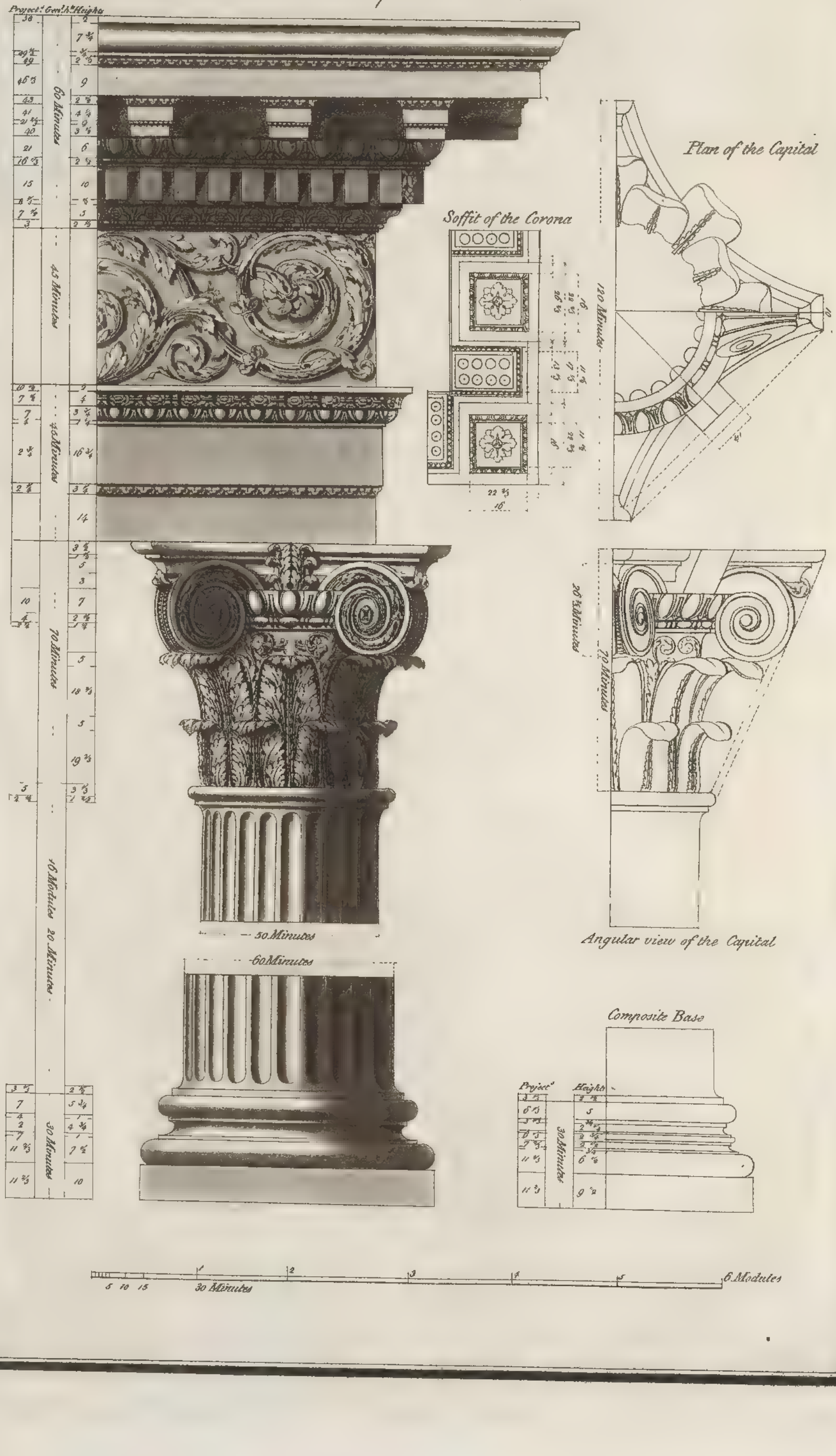
As the Doric Order is particularly affected in buildings dedicated to male ſaints, ſo the Ionic is uſed in ſuch as are erected to female ſaints of the matronal ſtate. It is likewiſe employed in the Halls of Juſtice, in Libraries, Colleges, and other ſtructures that have any relation to arts or letters; in Private Houſes and in Palaces, to adorn the Women's Apartments; and, ſays Le Clerc, " in all places conſecrated to peace and tranquillity." The ancients uſed it in Temples dedicated to Juno, to Bacchus, to Diana, and other deities whoſe diſpoſitions held a medium between the ſevere and effeminate.

GOLDMAN'S VOLUTE DESCRIBED.

DRAW the Cathetus F C (Pl. 7, fig. 1) whoſe length muſt be half a module, and from the point C deſcribe the Eye of the Volute A E B D, of which the diameter is to be $3\frac{1}{3}$ minutes; divide it into four equal ſectors by the diameters A B, D E; biſect the radii C A, C B in 1 and 4; and on the line 1, 4. Conſtruct a ſquare 1, 2, 3, 4, from the center C to the angles 2, 3 draw the diagonals C 2, C 3, and divide the ſide of the ſquare 1, 4 into ſix equal parts at 5, 9, C, 12, 8: then through the points 5, 9, 12, 8 draw the lines 5, 6, 9, 10, 12, 11, 8, 7. parallel to the diameter E D, which will cut the diagonal in 6, 7, 10, 11; and the points 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, will be the Centers of the Volute. From the firſt, center 1, and with the interval I F, deſcribe the quadrant F G; from the ſecond, center 2, and with the interval 2 G, deſcribe the quadrant G H; and continuing the ſame operation from all the twelve centers, the Contour of the Volute will be completed.

The Centers for deſcribing the Fillet (fig. 1 and 2), are found in this manner: Conſtruct a triangle, of which the ſide O Q is equal to the part of the Cathetus A F, and the ſide O V equal to C 1; on the O Q place the diſtance O R equal to F S the Breadth of the Fillet, and through the point R draw the line R T, which will be to C 1. in the ſame proportion R Q is to O Q: place this line on each ſide of the center C on the diameter of the Eye A B; divide it into three equal parts, and through the points of diviſion draw lines parallel to the diameter E D, which will cut the diagonals C 2, C 3, and you will have twelve new centers; from whence the interior Contour of the Fillet may be deſcribed, in the ſame manner as the exterior one was from the firſt centers.

The Roman, or Composite Order.



OF THE

COMPOSITE ORDER.

THE height MN (Pl. 2) of the Column, the Baſe and Capital included, is twenty modules, and that of the Entablature NO five. The Baſe is Attic, and its meaſures the ſame as in the Doric and Ionic orders; but as the module is leſs, all its parts of courſe are delicate. The Shaft is enriched with Flutings, which may be to the number of twenty, or twenty-four, as in the Ionic Order.

The Capital (Pl. 8.) is two modules and one third; is of the ſame kind that all the moderns have employed in this order; and enriched with Leaves of the Acanthus, as all the antique capitals of this ſort are. With regard to the method of tracing it, few directions will ſuffice: for the Deſigns were all exactly figured according to thoſe of Mr. Chambers. The Curvatures of the Abacus are deſcribed from the ſummits of equilateral triangles; the Projection of the Volutes is determined by a Line drawn from the extremity of the aſtragal to the extremity of a horn of the abacus; and the Projection of the Leaves is determined by another line drawn from the fillet below the aſtragal, parallel to the former.

The Foot of the Leaves of the Capital muſt not project beyond the upper part of the ſhaft of the column, as at St. Carlo in the Corſo at Rome, and at the Banqueting-Houſe in London; for nothing is uglier: neither is the lower row of them to bend forwards, as in many of the antiques,

tiques, and in ſome modern buildings; becauſe they then hide a great part of the upper leaves, and give a diſagreeable form to the whole capital. (Pl. 8.) The different Bunches that compoſe the Leaves muſt be ſtrongly marked, and maſſed in a diſtinct manner. The Sprigs that ſpring from between the upper ones, are to be kept flat upon the vaſe; and the Ornaments of the Volutes are not to project beyond the fillets that encloſe them.

The parts of the Entablature bear the ſame proportion to each other, as in the Ionic and Tuſcan Orders. The Architrave is nearly the ſame with thoſe of Palladio, Vignola, and the Baſilica of Antoninus. The Frize is enriched with Foliages, in imitation of thoſe at Nero's Frontiſpiece; whoſe moſt prominent parts ought never to project beyond the uppermoſt moulding of the architrave.

The Cornice is imitated from Scamozzi; and differs from the Corinthian only in the Modillions, which are flat. The Soffit of the Intervals between the dentils muſt be hollowed upwards, behind the little fillet in front, as they are in moſt of the antiques; which occaſions a dark ſhade, that marks the Dentils more diſtinctly: and the ſame muſt be obſerved in the Ionic and Corinthian Orders. The Roſes in the Soffit of the Corona are not to project beyond its horizontal ſurface; and care muſt be taken not to vary them ſo much as at St. Peter's of the Vatican, becauſe the unity of the compoſition ſuffers thereby. The Modillions, or Dentils, might with almoſt as much propriety be varied (Pl .8.): it will be beſt therefore to make them all alike, as they are in moſt of the antiques, and at Mr. Spencer's magnificent Houſe in the Green Park; that ſo they may not ſtrike the beholder as diſtinct objects, but as parts of one great whole. Or they may be of two kinds; which occaſions more variety, and no confuſion: for the ideas ſucceed each other ſo rapidly, that the third takes place before the firſt is in any degree obliterated; ſo that nearly the ſame effect is produced as by a continued ſucceſſion of the ſame object. But though this variety be allowable in ſmall objects, which the eye peruſes at a ſingle glance, and in ſuch as are merely acceſſory, and do not influence the general form of the compoſition; yet it is by no means to be tolerated in columns, and other large, or eſſential parts, which, from the number of their conſtituent points, are not conveyed to the mind at once, either with eaſe or perfect clearneſs, and therefore, if varied, cannot fail of exciting confuſed ideas.

The

The Romans uſed the Compoſite Order more frequently in their triumphal arches than in any other buildings; meaning, as Serlio ſuppoſes, to expreſs their dominion over thoſe nations that invented the orders of which this was compoſed. "It may, ſays Le Clerc, be uſed with propriety, wherever elegance and magnificence are to be aſſembled;" but it is more particularly adapted for Buildings intended to commemorate any ſignal Event, or to celebrate the Virtues and Actions of Conquerors or Legiſlators: becauſe the Capitals, and other Ornaments (Pl. 8), may be compoſed of Emblems, and alluſive Repreſentations; which is agreeable to the cuſtom of the ancients; as appears by multitudes of fragments of capitals, and other members of architecture, to be ſeen in different parts of Rome; ſome of which are repreſented in the ſecond plate of the Compoſite Order.

The Compoſite Entablature may be reduced to two ninths of the Column (for which, to avoid fractions, Mr. Chambers takes four modules and a half), by making the Module only nine tenths of the Semi-diameter, and obſerving the meaſures as in the deſign; and there will be a Dentil in the outer Angle, as in the Ionic Order. It may likewiſe, if required, be reduced to one fifth; by making the Module four fifths of the Semi-diameter. Though, in caſes where it is neceſſary to diminiſh it ſo much, it will be beſt to employ the Ionic Cornice, which, being compoſed of fewer parts, will ſtill retain an air of grandeur, notwithſtanding the ſmallneſs of the whole maſs.

Moſt authors give the laſt place to the Compoſite Order, as being the laſt invented, and a compound, which, of courſe, ought to be preceded by all the ſimples. Mr. Chambers has followed Scamozzi's method; his Arrangement appearing the moſt natural; for his Orders ſucceed each other according to their degrees and ſtrength, and in the progreſſion that muſt abſolutely be obſerved, whenever they are employed together.

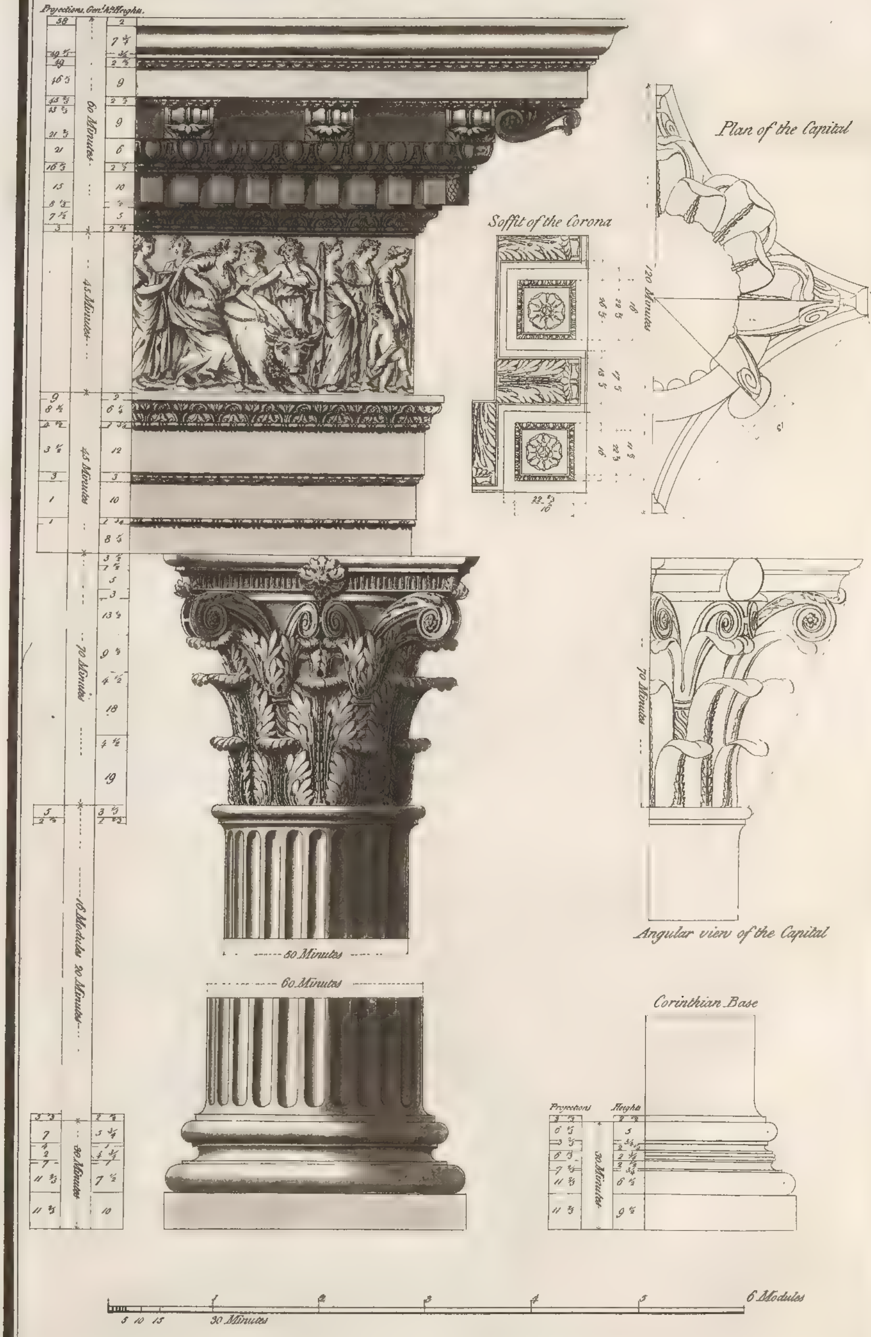
OF THE

CORINTHIAN ORDER.

THE height P Q (Pl. 2) of the Corinthian Column is twenty modules; and the Entablature O R is five: the Baſe of the Column may be either Attic or Corinthian; they are both beautiful. Palladio and Scamozzi have employed the Attic Baſe, enriched with Aſtragals: but ſo frequent a repetition of the ſame form hath a bad effect; as may be ſeen at the Church of St. Martin in the Fields, and at the Bank.

If the Entablature be enriched (Pl. 9.), the Shaft of the Column may be fluted; provided it be not compoſed of variegated marble: for a diverſity of colours renders even ſmooth ſurfaces confuſed, and ornaments of ſculpture only ſerve to make the confuſion greater. The Flutings may be filled to one third of their height with Cablings, as in the inſide of the Panthæon; which will ſtrengthen the lower part of the Column, and make it leſs liable to injury: but if the columns are not within reach, or ſubject to be hurt by paſſengers, theſe are better omitted; for the general hue of the column will then be more even. In ſome very rich Buildings, the Cablings are compoſed of Reeds, Ribbands, Huſks, Flowers, &c. (at the Thuilleries in Paris, there are ſome exquiſitely wrought by Jean Gougeon's own hands) but it is better to reſerve ſuch niceties in interior decorations. In the exterior, whatever doth not contribute to the general effect of the whole building (Pl. 9.), is in a great meaſure uſeleſs, and an expence that might more judiciouſly be employed in places where it would be more attended to.

The Corinthian Order



In general, exceſſive ornaments, though they increaſe the magnificence of a building, always deſtroy the grandeur of its effect. The parts that in themſelves are large, and ſo formed and diſpoſed as to receive broad maſſes and ſtrong impreſſions of light and ſhade, will of courſe excite great ideas: but if they are broken into a number of ſmall diviſions, and their ſurfaces ſo varied as to catch a thouſand impreſſions of light, demi-tint, and darkneſs, the whole will be confuſed, trifling, and incapable of cauſing any grand emotions.

The Capital is enriched with Olive-Leaves, as almoſt all the antiques at Rome of this order are; the acanthus being ſeldom employed but in the Compoſite. De Cordemoy however prefers the Acanthus; and obſerves, "that flexible ſprigs, which accompany the leaves of that plant, may more naturally be ſuppoſed to form the Contour of the Volutes, than the ſtiff branches of a laurel or olive. It is ſtrange, ſays he, that people ſoon ceaſe to eſteem what is natural: nature and reaſon muſt always be violated; and we prefer a confuſed jumble of little pointed leaves of the olive or laurel, to the ſimple and graceful Contours of the Acanthus."

With regard to the manner of tracing and working the Capital, the Deſigns, together with what hath been ſaid on the ſame head under the Compoſite Order, will ſufficiently explain it.

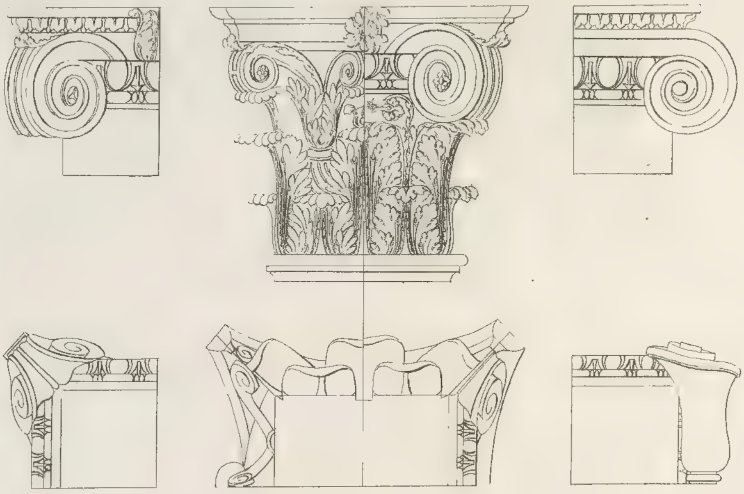
The diviſions of the Entablature (Pl. 9.) bear the ſame proportion to each other as in the Tuſcan, Ionic, and Compoſite Orders. The Frize is enriched with a Bas-Relief, compoſed from various fragments in the Villa Medici at Rome. The parts and ornaments of the Cornice are all regularly diſpoſed: the Coffers in the Soffit of the Corona are ſquare, and the Borders round them alike on all ſides; as they are at the Arch of Titus, and as Palladio hath made them.

When a Modillion Cornice is employed on a Concave Surface, the Sides of the Modillions muſt tend towards the center of the curve, as in the Panthæon; and the ſame muſt be obſerved with regard to the Dentils: but on a Convex Surface, the Sides of both muſt be parallel to each other; for it would be diſagreeable to ſee them narroweſt where they ſpring out of the cornice.

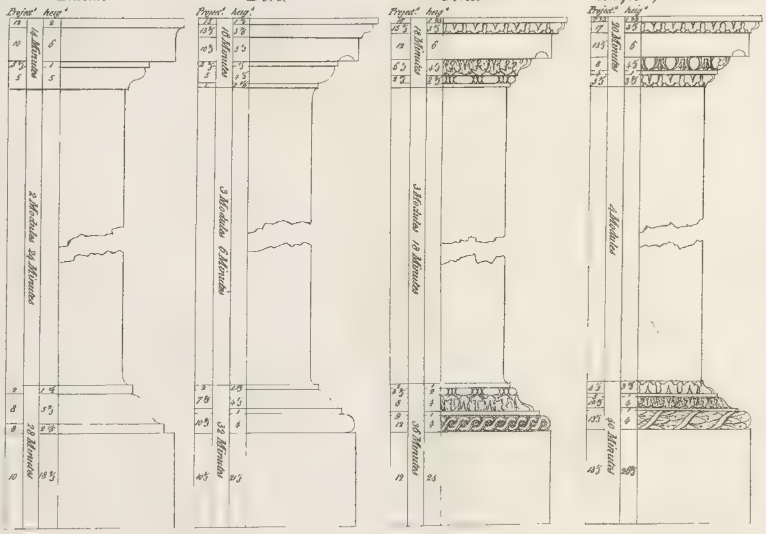
The Corinthian Entablature may be reduced to two ninths, or one fifth, of the height of the Column, by the ſame rule as in the Ionic and Compoſite Orders. But when it is neceſſary to make it ſo ſmall as one fifth, it will be beſt to uſe the Ionic Entablature, as Palladio hath done in the Periſtyle of the Olympic Theatre at Vicenza, and in many other of his buildings; or to retrench the Dentils of the Cornice, as in Serlio's and Scamozzi's Profiles; the part of the Cornice under the Modillion-Band being compoſed only of the Ovolo and Ogee, ſeparated by a Fillet; as at the Temples at Trevi, and of Sciſi in Umbria, mentioned by Palladio in his fourth book.

The Corinthian Order (Pl. 9) is proper for all Buildings, where Delicacy, Gaiety, and Magnificence are required. The ancients uſed it in Temples dedicated to Venus, Flora, Proſerpine, and Nymphs of Fountains; becauſe the flowers, leaves, and volutes that adorned it, ſeemed well adapted to the delicacy of theſe Deities. As it is the moſt magnificent of all the Orders, it is extremely proper for Palaces, public Squares, and Churches dedicated to the Virgin Mary, or other Virgin Saints; and, on account of its Gaiety, it may likewiſe be uſed in Theatres, Banqueting-Rooms, and all places conſecrated to Mirth and Pleaſure.

Plans and Elevations of Pilaster Capitals



Pedestals for the Orders


Tuscan
Doric
Jonic
Comp.te & Corinthian

OF

PILASTERS.

PILASTERS differ from columns in their plan only; which is ſquare, as that of columns is round (Pl. 10). Their Baſes, Capitals, and Entablatures have the ſame parts, with the ſame heights and projections, as thoſe of columns; and they are diſtinguiſhed, in the ſame manner, by the names of Tuſcan, Doric, Ionic, Compoſite, and Corinthian.

Of the two, the column is the moſt perfect. Nevertheleſs, there are various occaſions in which Pilaſters may be employed with great propriety.

Pilaſters are employed in Churches, Galleries, Halls, and other interior Decorations, to ſave room; for as they ſeldom project beyond the ſolid of the walls more than one quarter of their diameter, they do not occupy near ſo much ſpace, even as engaged Columns. They are likewiſe employed in Exterior Decorations: ſometimes alone inſtead of columns, on account of their being leſs expenſive; as at the Duke of Queenſberry's Houſe in Burlington-Garden, General Wade's Houſe in the ſame place, and in many other buildings in London. At other times they accompany columns, being placed behind them to ſupport the architraves, where they enter the building; as in the Panthæon at Rome, and in the Porch of St. Martin in the Fields, Weſtminſter; or on the ſame line with them, to fortify the angles; as in the Portico of Septimius at Rome, and in the Church of St. Laurence Jewry.

When Pilaſters are uſed alone, as principal in the compoſition, they ſhould project one quarter of their diameter beyond the walls; which gives them a ſufficient boldneſs, and, in the Corinthian and Compoſite Orders, is likewiſe moſt regular; becauſe the Stalks of the Volutes, and the ſmall Leaves in Flank, are then cut exactly through their middles: but if the Cornice of the Windows ſhould be continued in the Interpilaſters, as is ſometimes uſual---or if there ſhould be a Cornice to mark the ſeparation between the principal and ſecond ſtory, as at the Manſion Houſe---or large Impoſts of Arches, the Projection muſt be increaſed, provided it is not otherwiſe ſufficient to ſtop the moſt prominent parts of theſe Decorations; it being very diſagreeable to ſee ſeveral of the uppermoſt Mouldings of an Impoſt or Cornice cut away, in order to make room for the Pilaſters, while the Cornice or Impoſt on each ſide projects conſiderably beyond it; as at St. Peter's of the Vatican, and ſeveral other buildings at Rome.

It is ſometimes cuſtomary to execute Pilaſters without any Diminution. In antiques there are ſeveral inſtances thereof. Nevertheleſs it is certain, that diminiſhed Pilaſters are, on many accounts, much preferable. There is more variety in their form; their capitals are better proportioned, both in the whole, and in their parts, particularly in the Compoſite and Corinthian Orders: and the irregularities occaſioned by the paſſage of the architraves, from diminiſhed Columns to undiminiſhed Pilaſters, are avoided; as are likewiſe the difficulties of regularly diſtributing the modillions and other parts of the Entablature, either when the Pilaſters are alone, or accompanied with Columns.

The Shafts of Pilaſters are ſometimes adorned with Flutings, in the ſame manner as thoſe of columns; the Plan of which may be a trifle above a Semi-circle; and they muſt be to the number of ſeven on each Face, which makes them nearly of the ſame ſize as thoſe of the columns. The Interval between them muſt be either one third, or one fourth of the fluting in breadth; and when the Pilaſter is placed on the pavement, and liable to be broken, the Angle may be rounded off, in the form of an aſtragal; between which and the adjoining fluting there muſt be a Fillet, or Interval, of the ſame ſize with the reſt; as in the Porch of the Panthæon at Rome. The Flutings may, like thoſe of columns, be filled with Cablings, to one third of their height; either plain, and ſhaped like an aſtragal, or enriched, according as the reſt of the compoſition is ſimple, or much adorned.

adorned. Scamozzi is of opinion, that there ſhould be no Flutings on the ſides of engaged Pilaſters, but only in Front. When Cornices or Impoſts are continued quite home to the Pilaſter, this is to be particularly obſerved; becauſe the different mouldings of thoſe parts, entering upon theſe cavities of the flutings, are cut off in irregular and very diſagreeable figures: but if the flanks of the Pilaſter are entirely free, it will be as well to enrich them in the ſame manner with the front: provided the flutings can be ſo diſtributed as to have a fillet or interval adjoining to the wall; which is neceſſary to mark the true ſhape of the Pilaſter diſtinctly.

The Capitals of Tuſcan or Doric Pilaſters are profiled in the ſame manner as thoſe of the reſpective columns: but in the Capitals of the other Orders there are ſome trifling differences to be obſerved. In the Antique Ionic Capital, the extraordinary projection of the Ovolo makes it neceſſary either to bend it inwards conſiderably towards the extremities, that it may paſs behind the volutes, or inſtead of keeping the volutes flat in Front, as they commonly are in the Antique, to twiſt them outwards for the ſame end.

What has been ſaid, with regard to the paſſage of the Ovolo behind the Volutes in the Ionic Order, muſt likewiſe be remembered in the Compoſite; and in the Corinthian, the lip or edge of the Vaſe, or Paſket, may be bent a little inwards towards its extremities; by which means it will eaſily paſs behind the volutes. The Leaves in the Corinthian and Compoſite Capitals, muſt not project behind the top of the ſhaft, as they do at St. Carlo in the Corſo at Rome, and in the Banqueting-Houſe at Whitehall; but the Diameter of the Capital muſt be exactly the ſame as that of the Top of the Shaft: and to make out the thickneſs of the ſmall Leaves, their edges may be bent a trifle outwards; and the large angular Leaves may be directed inwards, in their approach to them, as in the annexed deſign, and as executed in the Church of the Roman College at Rome; where the ſmall leaves have a conſiderable thickneſs, though the diameter of the capital is exactly the ſame as that of the ſhaft. In each Front of the Compoſite and Corinthian Pilaſter-Capital, there muſt be two ſmall Leaves, with one intire, and two half large ones. They may be of Olive, Acanthus, Parſley, or Laurel, and be divided and wrought in the ſame manner as thoſe of the columns are; the only difference being, that they will be ſomewhat broader.

OF

PEDESTALS.

A PEDESTAL is compoſed of three principal parts; which are, the Baſe, the Dye, and the Cornice (Pl. 10). The Dye is always nearly of the ſame figure; being conſtantly either a cube, or a parallelopiped; but the Baſe and Cornice are varied, and adorned with more or fewer mouldings, according to the ſimplicity or richneſs of the compoſition in which the Pedeſtal is employed. Hence Pedeſtals are, like columns, diſtinguiſhed by the names of Tuſcan, Doric, Ionic, Compoſite, and Corinthian.

With regard to the proportion that their height ought to bear to that of the Columns which they are to ſupport, it is by no means fixed; the ancients, and moderns too, having in their works varied greatly in this reſpect, and adapted their proportion to the reſpective purpoſes for which the Pedeſtals were intended. Mr. Chambers gives to the Pedeſtal three tenths of the height of the reſpective Columns of each order, but he ſays that it is not neceſſary to adhere always to this proportion; they may be higher or lower, as the occaſion ſhall require. It is however to be obſerved, that when Pedeſtals are profiled under each column, and the Dye is much leſs than a ſquare in height, the Pedeſtal hath a clumſy figure: and when a Pedeſtal of the ſame kind exceeds one third of the height of the column, it hath a lean and unſolid appearance: but if they are continued without any breaks, this need not be attended to; though indeed, there are very few occaſions in which Pedeſtals higher than one third of the column ought to be ſuffered, as they leſſen too much the parts of the Orders, and become themſelves too principal in the compoſition.

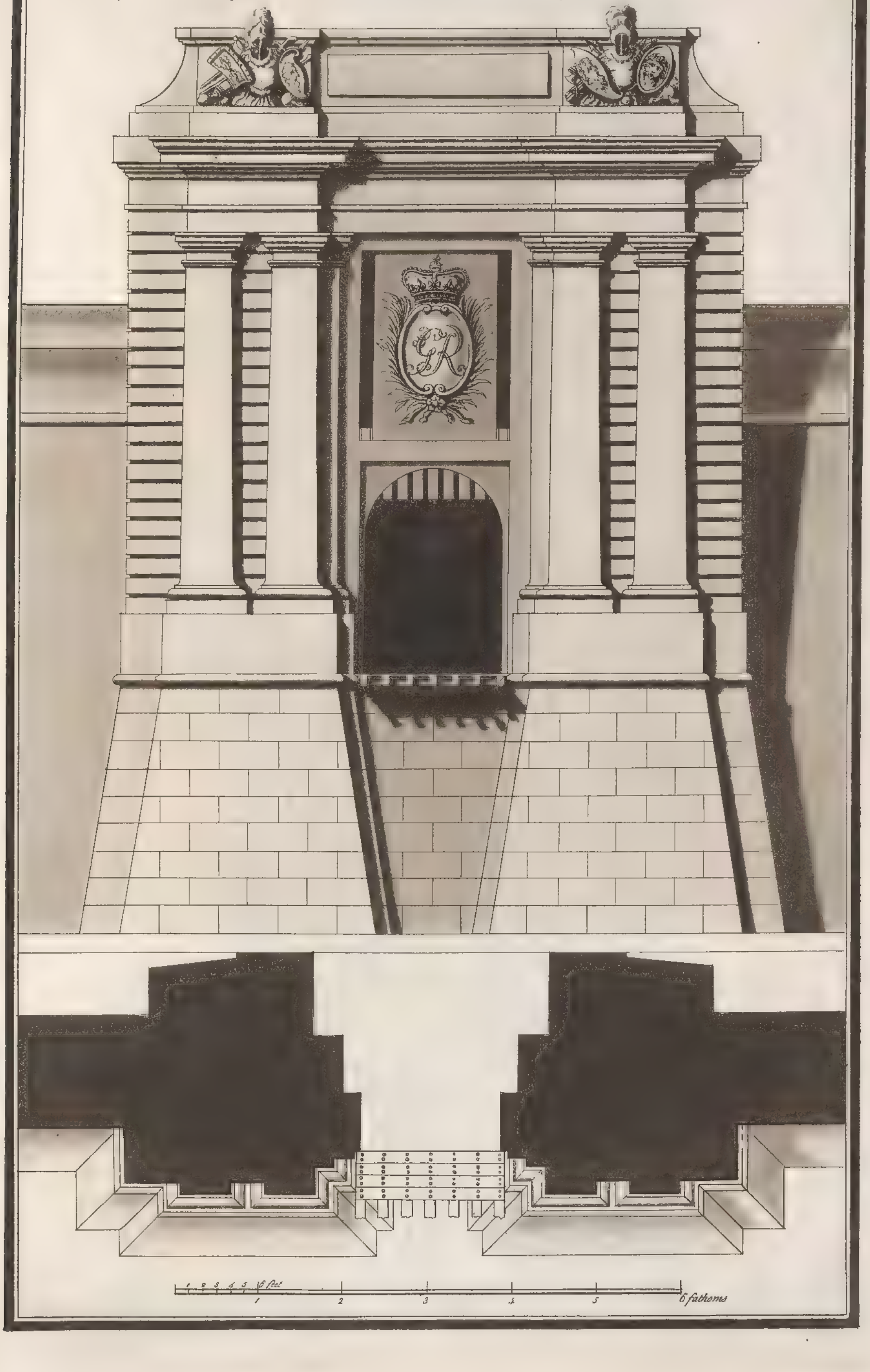
In reſpect of the diviſion of the Pedeſtal, if the whole height be divided into nine equal parts, one of them may be given to the height of the Cornice, two to the Baſe, and the remaining ſix to the Dye; or if the Pedeſtal is lower than ordinary, it will be better to divide its height into eight parts only, giving one of them to the Cornice, two to the Baſe, and five to the Dye; as Palladio hath done in his Corinthian Order, and Perrault in all the Orders. The breadth of the Dye is always made equal to that of the Plinth of the Column: the projection of the Cornice may be made equal to its height; and the Baſe being divided into three parts, two of them will be for the height of the Plinths, and one for the Mouldings, whoſe projections muſt be leſs than that of the Cornice, ſo that the whole Baſe may be covered and ſheltered by it.

It is ſometimes cuſtomary to adorn the Dyes of Pedeſtals with projecting Tablets, or Pannels ſunk in, and ſurrounded with Mouldings. The former of theſe ought ſeldom to be admitted, as ſuch Tablets alter the general figure of the Pedeſtal, and, if they project much, give it a heavy look: and the latter ſhould be reſerved for very large Pedeſtals only, ſuch as thoſe that ſupport the Trajan and Antonine Columns at Rome, and the Monument in London; where they may be adorned with Bas-reliefs, analogous to the occaſion on which the Column was erected. But in Buildings the Pedeſtals are too ſmall to admit of theſe ornaments, which ſerve only to weaken them, and give them a trifling appearance.

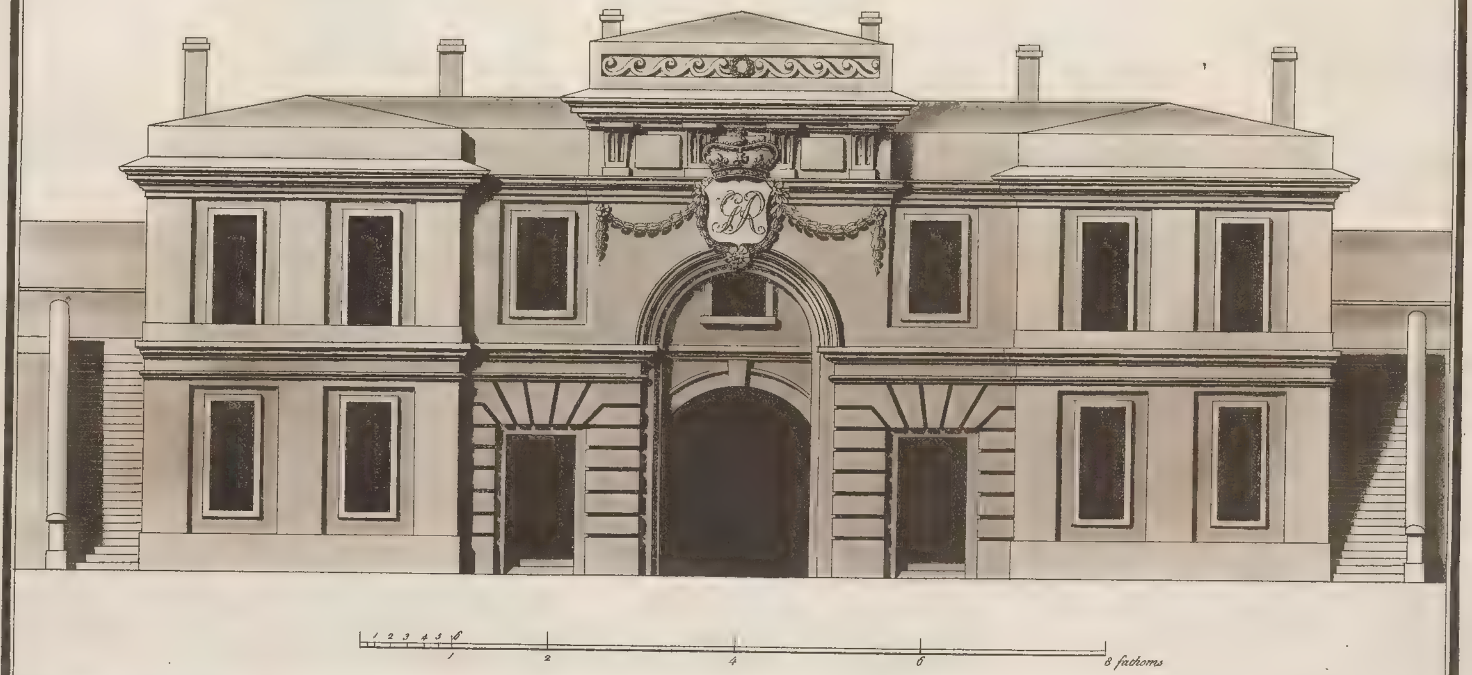
FINIS.

Pl. XI.

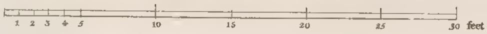
Geometrical Elevation of a Town Gate



Inside Elevation of a Town Gate

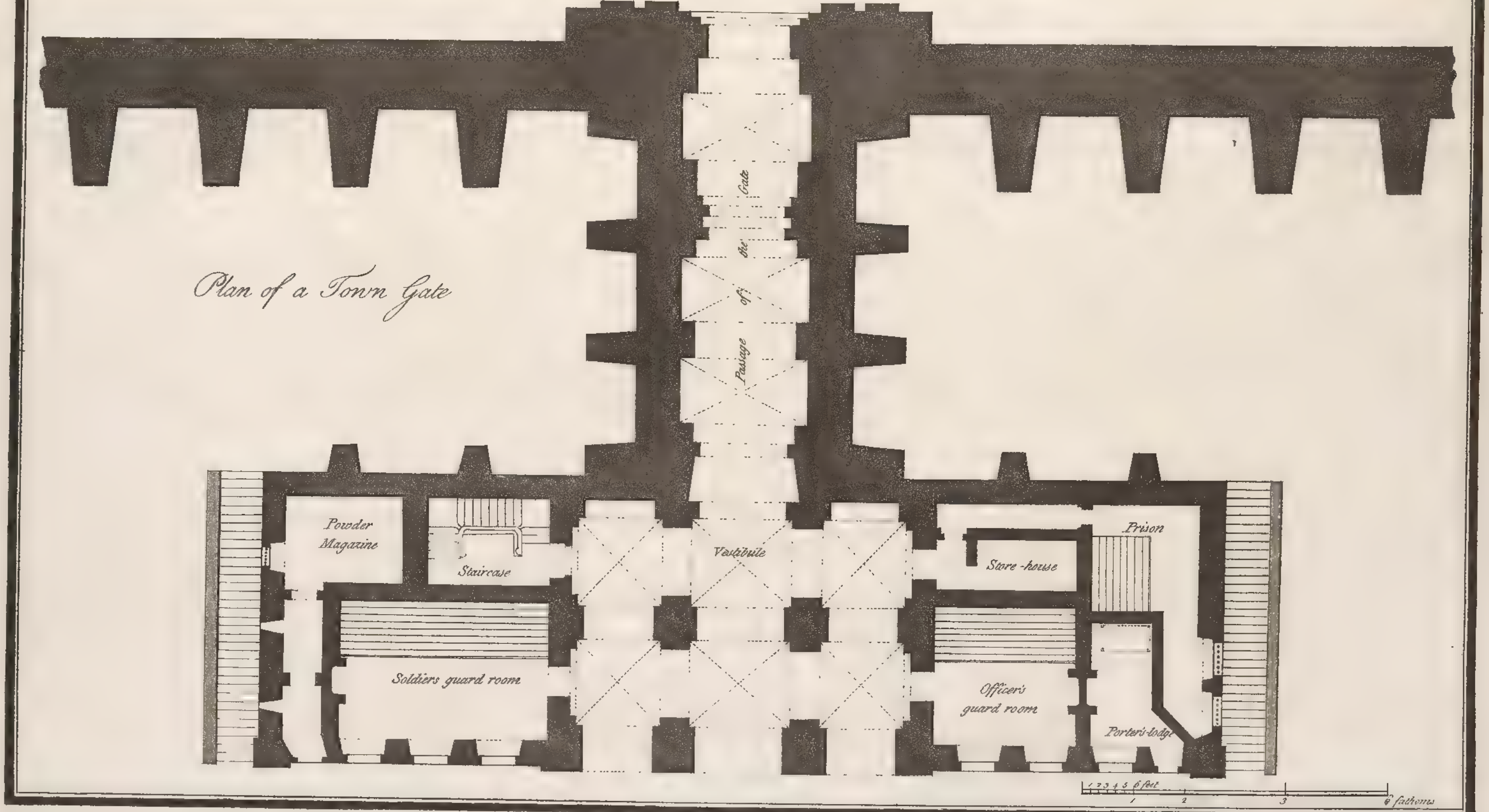


Geometrical elevation of a Town Gate.



J. Landmann

Pl.XIV.



Plan of a Town Gate

o/a

c4p
18 plates